AMENDMENTS TO THE CLAIMS

This listing of the claims will replace all prior versions, listings, of claims in the application:

Claim 1 (previously presented): A control system for a decanter centrifuge, said decanter centrifuge when rotating having kinetic energy, said control system comprising:

(a) a variable frequency drive receiving power from an AC source and connected to a main drive motor, said main drive motor for rotating a bowl of said decanter centrifuge;

(b) a variable frequency drive connected to a back drive motor, said back drive motor for rotating a conveyor of said decanter centrifuge;

(c) a common DC bus connected to said variable frequency drive connected to said main drive motor and to said variable frequency drive connected to said back drive motor;

(d) means connected to said common DC bus and a stand for providing lubrication to said decanter centrifuge for controlling said lubrication stand;

said decanter centrifuge kinetic energy providing through said variable frequency drive connected to said main drive motor power for said DC bus in the absence of power from said AC source.

Claim 2 (previously presented): The control system of claim 1 further comprising:

a circuit breaker connected between said main motor variable frequency drive and said main drive motor;

a circuit breaker connected between said back drive motor variable frequency drive and said back drive motor;

said means for controlling said lubrication stand providing a DC voltage have a constant predetermined amplitude;

each of said circuit breakers maintained closed by said constant predetermined amplitude DC voltage and reset by an AC voltage derived from said AC source.

Claim 3 (previously presented): The control system of

claim 1 wherein said means connected to said common DC bus and said lubrication stand for controlling said lubrication stand further comprises:

a power supply connected to said DC bus for providing at its output a DC voltage having a constant amplitude;

a variable frequency drive connected to said DC bus and said lubrication stand.

Claim 4 (currently amended): The control system of claim 3 wherein said lubrication stand ~~includes~~ comprises a lube oil pump and said variable frequency drive connected to said ~~lube~~ lubrication stand is connected to said lube oil pump.

Claim 5 (previously presented): A control system for a decanter centrifuge, said decanter centrifuge when rotating having kinetic energy, said control system comprising:

(a) a variable frequency drive receiving power from an AC source and connected to a main drive motor, said main drive motor for rotating a bowl of said decanter centrifuge;

(b) a variable frequency drive connected to a back drive motor, said back drive motor for rotating a conveyor of decanter centrifuge;

(c) a common DC bus connected to said variable frequency drive connected to said main drive motor and to said variable frequency drive connected to said back drive motor;

(d) means connected to said common DC bus for providing lubrication to said decanter centrifuge;

said decanter centrifuge kinetic energy providing through said variable frequency drive connected to said main drive motor power for said DC bus in the absence of power from said AC source.

Claim 6 (previously presented): The control system of claim 5 further comprising:

a circuit breaker connected between said main motor variable frequency drive and said main drive motor;

a circuit breaker connected between said back drive motor variable frequency drive and said back drive motor;

said means connected to said common DC bus for providing lubrication to said decanter centrifuge providing a DC voltage have a constant predetermined amplitude;

each of said circuit breakers maintained closed by said constant predetermined amplitude DC voltage and reset by an AC voltage derived from said AC source.

Claim 7 (previously presented): In combination,

a decanter centrifuge comprising a bowl and a conveyor, said decanter centrifuge when rotating having kinetic energy, a control system for said decanter centrifuge comprising:

(a) a variable frequency drive receiving power from an AC source and connected to a main drive motor, said main drive motor for rotating said bowl of said decanter centrifuge;

(b) a variable frequency drive connected to a back drive motor, said back drive motor for rotating said conveyor of said decanter centrifuge;

(c) a common DC bus connected to said variable frequency drive connected to said main drive motor and to said variable frequency drive connected to said back drive motor; and

(d) means connected to said common DC bus and a stand for providing lubrication to said decanter centrifuge for controlling said lubrication stand;

said decanter centrifuge kinetic energy providing through said variable frequency drive connected to said main drive motor power for said DC bus in the absence of power from said AC source.

Claim 8 (previously presented): In combination,

a decanter centrifuge comprising a bowl and a conveyor, said decanter centrifuge when rotating having kinetic energy, a control system for said decanter centrifuge comprising:

(a) a variable frequency drive receiving power from an AC source and connected to a main drive motor, said main drive motor for rotating said bowl of said decanter centrifuge;

(b) a variable frequency drive connected to a back drive motor, said back drive motor for rotating said conveyor of said

decanter centrifuge;

(c) a common DC bus connected to said variable frequency drive connected to said main drive motor and to said variable frequency drive connected to said back drive motor; and

(d) means connected to said common DC bus for providing lubrication to said decanter centrifuge;

said decanter centrifuge kinetic energy providing through said variable frequency drive connected to said main drive motor power for said DC bus in the absence of power from said AC source.

Claim 9 (currently amended): In a system for controlling a decanter centrifuge, said decanter centrifuge when rotating having kinetic energy, said control system comprising a variable frequency drive receiving power from an AC source and connected to a main drive motor, said main ~~driver~~ drive motor for rotating a bowl of said centrifuge; a variable frequency drive connected to a back drive motor, said back drive motor for rotating a conveyor of said centrifuge; a common DC bus connected to said variable frequency drive connected to said main drive motor and to said variable frequency drive connected to said back drive motor; and means connected to said common DC bus and for providing lubrication to said centrifuge,

a method for controlling said centrifuge in the absence of power from an AC source comprising:

driving both said main drive motor and said back drive motor ~~providing~~, in the absence of power from said AC source, from power provided for said DC bus through said variable frequency drive connected to said main drive motor from said decanter centrifuge kinetic energy to simultaneously control said bowl rotation and said conveyor rotation.

Claim 10 (new): The control system of claim 5 further comprising a power supply connected to said DC bus for providing at its output a DC voltage having a constant amplitude.

Claim 11 (new): The control system of claim 10 wherein said means connected to said common DC bus for providing

lubrication to said decanter centrifuge comprises a lubrication stand and a variable frequency drive connected to said lubrication stand and said DC bus.

Claim 12 (new): The control system of claim 11 wherein said lubrication stand comprises a lube oil pump and said variable frequency drive connected to said lubrication stand is connected to said lube oil pump.

Claim 13 (new): The combination of claim 7 wherein said control system for said decanter centrifuge further comprises:

a circuit breaker connected between said main motor variable frequency drive and said main drive motor;

a circuit breaker connected between said back drive motor variable frequency drive and said back drive motor;

said means for controlling said lubrication stand providing a DC voltage have a constant predetermined amplitude;

each of said circuit breakers maintained closed by said constant predetermined amplitude DC voltage and reset by an AC voltage derived from said AC source.

Claim 14 (new): The combination of claim 7 wherein said control system for said decanter centrifuge further comprises a power supply connected to said DC bus for providing at its output a DC voltage having a constant amplitude.

Claim 15 (new): The combination of claim 8 wherein said control system for said decanter centrifuge further comprises:

a circuit breaker connected between said main motor variable frequency drive and said main drive motor;

a circuit breaker connected between said back drive motor variable frequency drive and said back drive motor;

said means connected to said common DC bus for providing lubrication to said decanter centrifuge providing a DC voltage have a constant predetermined amplitude;

each of said circuit breakers maintained closed by said constant predetermined amplitude DC voltage and reset by an AC voltage derived from said AC source.

Claim 16 (new): The combination of claim 8 wherein said

control system for said decanter centrifuge further comprises a power supply connected to said DC bus for providing at its output a DC voltage having a constant amplitude.

Claim 17 (new): The method of claim 9 further comprising:

connecting a circuit breaker between said main motor variable frequency drive and said main motor drive;

connecting a circuit breaker between said back drive motor variable frequency drive and said back drive motor; and

providing a DC voltage having a constant predetermined amplitude from said means connected to said common DC bus for providing lubrication to said decanter centrifuge;

each of said circuit breakers maintained closed by said constant predetermined amplitude DC voltage and reset by an AC voltage derived from said AC source.

Claim 18 (new): The method of claim 9 further comprising connecting a power supply to said DC bus for providing at its output a DC voltage having a constant amplitude.